Syllabus Bioc 800 – Graduate Research

Time and location

Instructor: Dr. Kathleen Beckingham (kate@rice.edu W130 GRB). Office hours by appointment.

Course objectives and expected learning outcomes:

- To conduct mentored research in molecular genetics, cell biology, bioinformatics, biochemistry, and plant physiology
- To synthesize novel findings in a comprehensive research-based dissertation by the end of the fifth year in the graduate program
- To gain scientific communication experience through reporting novel findings in peer-reviewed publications
    - **Course structure:** Graduate research is conducted full-time in the laboratory after completing the first two semesters of the BCB graduate program. Students should acquire advisor approval to attend classes or conferences and to arrange vacation time. Students are expected to spend at least 40 hours per week performing research or attending research-related meetings, classes, conferences, and other events.
    - **Presentations:** Students present research activities and progress in the lab specific settings (~3 times/year in Bioc 611), to other BCB graduate students (once/year in Bioc 581 or Bioc 582), and to their progress review committee (once/year). Students usually have the opportunity to present a poster and/or talk at one scientific conference per year, pending availability of funds and relevant conferences in the student's area of research.
    - **Scientific writing:** In addition to annual progress review documents, students prepare drafts of manuscripts of their research results for publication and have opportunities to provide critical comments on drafts of other lab members' documents.
    - **Readings:** Readings are from the primary literature in areas related to the research field or the experimental design employed by the student. Reading should be self-driven; students should be generally knowledgeable about current findings in their area of specialization and are expected to regularly search for new articles and new findings without specific direction from the advisor.
    - **Mentoring opportunities:** Lab graduate students have the (optional) opportunity to mentor undergraduate researchers (usually Bioc 310 students) in projects related to their thesis work.
    - **Teaching opportunities:** Post A-exam students have the (optional) opportunity to teach a section of Bioc 115, a freshman seminar in local biology research. Students may complete the *BioSciences Higher Education Teaching and Mentoring Training Program* (see department web page).
    - **Attendance and participation:** Attendance and active participation are required.
    - **Exams:** No exams.
    - **Grading:** Grading is Satisfactory/Unsatisfactory based on research effort, research progress, and communication with the advisor. Course can be repeated for credit.

- **Rice Honor Code:** Students are required to use proper citations and follow other practices outlined in the Rice Honor Code information on Academic Fraud and Acknowledgement of Sources: http://honor.rice.edu/honor-system-handbook/

Accommodations for students with disabilities: Any student with a documented disability needing academic adjustments or accommodations is encouraged to speak with the instructor during the first two weeks of class. All discussions will remain confidential. Students with disabilities should also contact the Rice University office for Disabled Student Services.